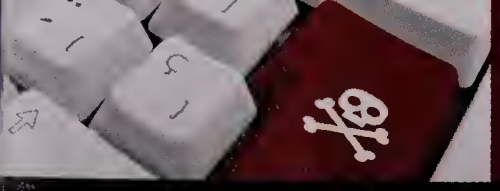

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COMPUTERWORLD®

Sold on SaaS

Four companies tell how software as a service works for them.

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Informa CIO Jonathan Earp

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BLACK IS THE NEW GREEN.
Running business apps on servers that aren't scalable, along with business growth and demanding service levels, is consuming energy at an exponential rate. Upgrading your IT environment with IBM can help you break this cycle with highly scalable, easy-to-manage servers. And with IBM PowerVM™ virtualization technology, you can consolidate workloads from twelve single-application 16-core HP Integrity rx7640 systems onto two 16-core Power™ 570 systems, for up to 18% higher performance and reduced energy requirements of up to 44%[1]. A greener world starts with greener business. Greener business starts with IBM.
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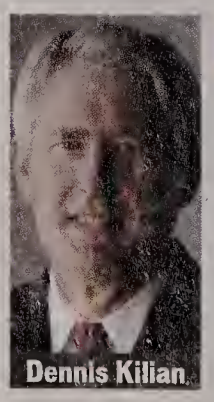
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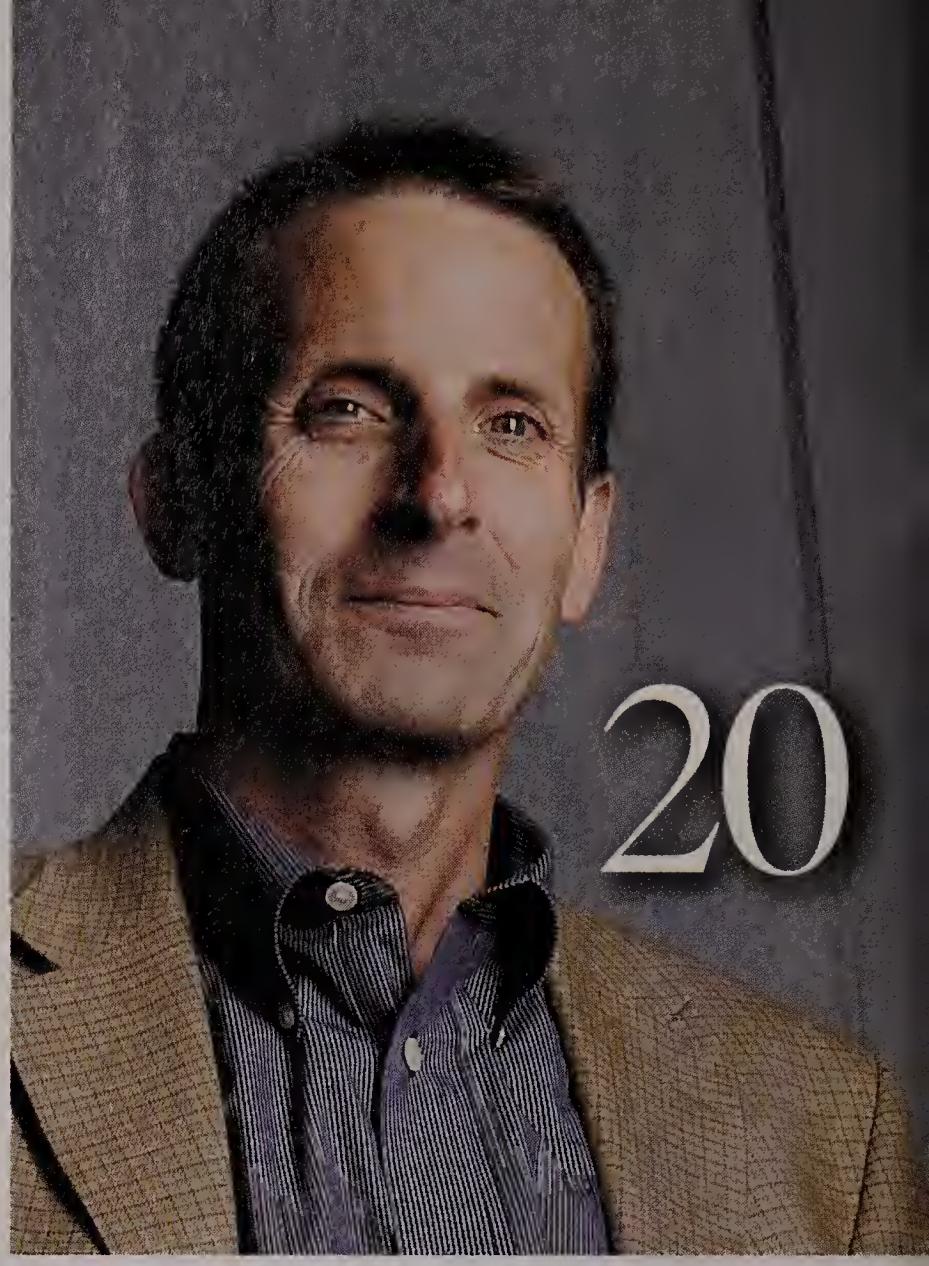

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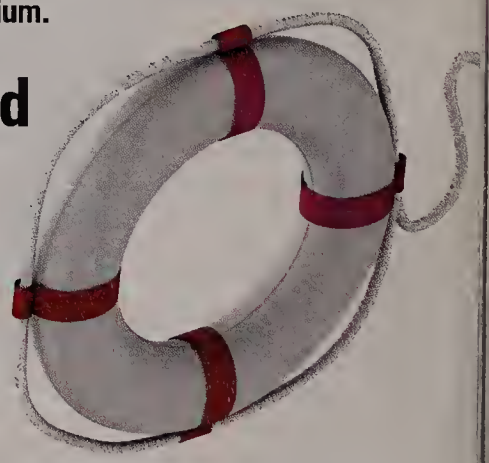

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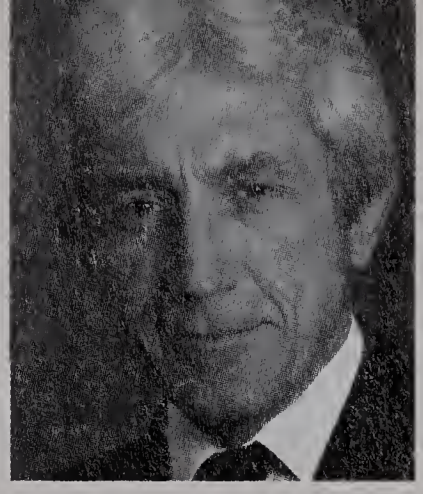
Nanotechnology promises countless benefits, but some health advocacy groups caution that speed of development may be trumping safety.

EDITOR'S NOTE

Don Tennant

Making Buying Fun



EARLIER THIS MONTH, I was speaking with a top sales executive at a large enterprise software vendor. The executive was champing at the sales bit, eagerly anticipating his company's annual user conference, where he was certain the cash would be flowing.

He spoke animatedly about how every year at the conference, customers come up to him and say, "OK, what do I buy?"

"The consumer in them comes scratching to the surface," he said with unbridled delight.

Sure, we're in a recession, he continued, but his top customers "are all still consumers. They're looking for things to buy." And the executive was determined to come to their aid. "Buying is supposed to be an enjoyable thing," he said. "It's not supposed to be a tooth extraction." His goal, he said, was to "make buying fun again."

I appreciated his enthusiasm, but I found myself raining on his parade.

"It's not all that much fun when you don't have enough money," I said.

The executive blew off the negative vibe. "Let's face it — we're all big companies; we always have money," he said. "It's just [a matter of] what are we spending it on."

I spoke with another senior executive from the same software vendor a couple of weeks later. By that time, Wall Street was quaking, and Lehman Brothers — one of the vendor's key customers — was teetering on the brink. This executive said he was hoping that Bank of America would acquire Lehman. He noted that his company has a strong relationship with BofA, so as long as that acquisition panned out, the damage would be minimal.

Of course, the acquisition didn't happen, and Lehman collapsed into bankruptcy less than 72 hours after our conversation. The crash and burn of one formerly highflying customer isn't catastrophic for the software vendor, by any means. But it was a sobering development, especially in view of the broader Wall Street meltdown. At this writing, I'm unaware of how the sales exec I'd spoken with earlier is dealing with the mess, but I have a feeling he's not quite as flip about the economy and IT budgets as he was earlier in the month.

■ I have a feeling the software sales exec isn't as flip about the economy and IT budgets now as he was earlier in the month.

No doubt, he has good reason for concern. IT vendors as a whole depend more on financial services than on any other sector for their revenue. According to a Gartner report released in July, IT spending by financial services companies worldwide was projected to increase from $568 billion in 2008 to $593 billion in 2009. Government came in a fairly distant second, with projected worldwide IT spending of $434 billion in 2009, and communications came in third, at $380 billion.

While it's difficult to assess the full ripple effect of the Wall Street calamity on the IT sector, the swiftness of the tanking is dizzying. In August, I became acquainted with a guy who was working at a large storage vendor as the global account manager for the vendor's Lehman Brothers account. A month ago, he was jetting to exotic places around the world to ensure that his Lehman accounts were well cared for. Today, he's probably canceling whatever plans he had for spending his annual bonus.

To make matters worse, many IT vendor reps with financial services accounts are going to have to start from scratch with their relationship-building. Last week's announcement that Fannie Mae CIO Rahul Merchant had left the company may well herald an exodus of senior IT executives from financial services posts.

Yet what's bad for IT vendors isn't necessarily bad for IT managers. Already, there are indications that vendors are willing to deal in order to get a foot in the door of whatever new Wall Street house is constructed. Last week, for example, Microsoft was in New York wooing companies like Morgan Stanley with details of its newly released high-performance computing offering, Windows HPC Server 2008.

To the extent that IT vendors start seeing revenue tied up in customers' bankruptcy and bailout proceedings, they may well be forced to bargain. If so, they really do stand to make buying fun again. ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.

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RESPONSE TO:

Um, What Noise?

Sept. 15, 2008

Paying attention to new employees, who aren't yet blind to all of our work-arounds, really does work. We brought a support role back in-house and reviewed and cleaned up many poor procedures. This dropped the day-to-day grub work for the in-house team considerably, allowing us to have a smaller team that gets to do more interesting work, which we expect will improve retention; the outsourced team had turned over completely twice in five years.

Submitted by: *Anonymous*

RESPONSES TO:

Why Chrome Won't Rule the World (Yet)

Sept. 15, 2008

When I first loaded Chrome, it did seem snappier than Firefox (my all-time favorite browser), but I was skeptical. Yesterday, while cruising various Chrome developer boards, I found an intensive, simple 3-D environment JavaScript application and ran my own speed tests.

I'm a convert now. With Chrome, the 3-D environment (at its highest settings) had an idle frame rate of 30 frames per second and a "moving around" rate of about 20 fps.

Firefox didn't do so well. It had an idle frame rate of 6 fps and a "moving around" rate of about 1 fps.

I know that most people won't be running JavaScript as intense as rendering a 3-D scene, yet. But it's good to know Chrome is out there waiting for us when we do.

Submitted by: *Michael Adams*

"Why pay for Windows and Office when you can get all they can do for next to nothing?"

The author is right on target with this question. I can purchase Google Apps Premier Edition for $50/user a year. There are over 1 million Google Apps users, and that number is growing daily. Granted, many of them use the free edition, but it's still an impressive number.

Submitted by: *JSMV*

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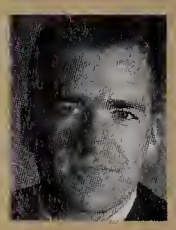
Get a Grip on User Accounts With Role Management

Be prepared to spend a bundle, and make sure whatever app you choose has the right mix of features and functions. Here's what to look for.



I Want My Mobile Social Address Book

We have the technology. We even have the data. So why, Mike Elgan wonders, are we still using paper business cards?

How Do Tech Terms Become Legit?

New high-tech words are coined in the blogosphere every day, but they may not show up in mainstream dictionaries for years – if ever.

Predicting Wi-Fi Performance: Can It Be Done?

No matter how much simulation and analysis you do, plan on stepwise, incremental refinements, and be prepared to buy additional equipment over time, says Craig Matthias.

The Wild, Wacky World of Webcams Grows Up – Kinda

Remember the water-cooler webcam? Since then, the technology has improved, and the Web is chock-full of cameras targeted at just about anything you can think of, from animals and traffic to weather events, construction sites, server rooms and much more.

News Digest

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THE WEEK AHEAD

MONDAY: Microsoft opens its Windows Driver Developer Conference in Redmond, Wash.; the agenda includes a preview of some of the features planned for Windows 7.

WEDNESDAY: WiMax World 2008 begins in Chicago, after a related summit on 4G wireless technologies on Tuesday.

WEDNESDAY: The PCI Security Standards Council plans to release Version 1.2 of its specifications for securing credit and debit card data in retail systems.

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SOFTWARE

Oracle Puts 11g Database, Other Tools in Cloud

ORACLE CORP. last week said it will begin licensing its Oracle 11g database and its middleware and management tools to run in cloud computing environments, starting with Amazon.com Inc.'s Elastic Compute Cloud.

In addition, Oracle said at its OpenWorld conference in San Francisco that existing customers will be able to run databases on the EC2 service under their current software licenses, without having to pay any additional fees. It also announced a cloud version of its Secure Backup software that will let users back up databases to Amazon's companion Simple Storage Service, or S3.

The deal with Amazon is by no means an exclusive one, according to Chuck Rozwat, Oracle's executive vice president of product development. During a Q&A session with reporters, Rozwat said Oracle will make similar announcements for other cloud computing environments in the future.

Forrester Research Inc. analyst James Kobielus called Oracle's embrace of cloud computing a "game-changing move." Letting users move their databases to EC2 without being charged new license fees makes cloud-based hosting of 11g an attractive choice for Oracle's customer base, Kobielus said via e-mail.

But, he added, it's unclear what Amazon will charge for hosting databases on the cloud computing service or for backing up large amounts of data on S3.

Separately, Oracle introduced what CEO Larry Ellison called its first hardware products: a data warehousing server designed to boost query speeds and a system that combines eight database servers and 14 of the query-boosting ones. Both products were developed with Hewlett-Packard Co. and use its ProLiant servers.

Meanwhile, an Oracle executive said the company likely won't deliver the first version of its Fusion Applications suite until 2010.

The Fusion project, which began three years ago, will combine pieces of the various lines of business applications that Oracle has developed or acquired. Steve Miranda, senior vice president of Fusion development, said a group of early users is scheduled to get the applications late next year.

But Oracle will be "very, very cautious" about making the new applications generally available, Miranda added. "We're going to make sure," he said, "that they are successful — period."

— Chris Kanaracus, IDG News Service

EIGENE ARBEIT

HARDWARE

Wiring Woes Knock Particle Collider Offline

Problems continue to plague the world's largest particle collider, with the latest being a faulty electrical connection that has shut it down until next spring.

Last week's news came just days after CERN, the European Organization for Nuclear Research, had said the faulty wiring would put the Large Hadron Collider out of service for only two months.

"This is undoubtedly a psychological blow," said CERN Director General Robert Aymar in a statement.

CERN said an electrical connection between two magnets melted, causing a "large helium leak" in the collider's 17-mile, underground vacuum-sealed tube.

The successful first test of the collider, on Sept. 10, shot a particle beam around the tube. A worldwide grid of 30,000 servers and more than 100,000 processor cores studied the results.

A collision of two beams had been planned for this fall.

– SHARON GAUDIN

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SECURITY

Web Mail Rivals at Risk Of Password-Reset Hacks

YAHOO MAIL isn't the only Web-based e-mail service that hackers could dupe into giving up user passwords, the tactic that was apparently used to break into the e-mail account of Alaska Gov. Sarah Palin, the Republican nominee for vice president.

Google Inc.'s Gmail and Microsoft Corp.'s Windows Live Hotmail also rely on automated password-reset mechanisms that can be abused by someone who knows the username associated with an account and an answer to a single security question, according to tests done by *Computerworld*.

Several reporters were able to access colleagues' accounts on all three services and then quickly reset their passwords. None of the services required the new passwords to be sent to an alternate e-mail address, although all three offered that as an option.

Adam O'Donnell, director of emerging technologies at messaging security vendor Cloudmark Inc., said that automated password-reset is the rule in Web mail, whether the service is free or offered to users by ISPs as part of their subscriptions.

Personal information that provides answers to account security questions can often be found by searching social networks and other Web sites. The hacker who accessed Palin's account — a person using the name "Rubico" — claimed in an online post that it took just 45 minutes to dig up the needed info.

David Kernell, the 20-year-old son of a Tennessee state representative, has been connected to the Rubico name in blog posts and online message boards. A federal grand jury in Chattanooga began hearing testimony about the hacking incident last week.

Meanwhile, the FBI served a search warrant at the Knoxville apartment of a college student, who was identified as David Kernell by a local television station. And a lawyer who is representing Kernell said in a statement that the student's family "wants to do the right thing, and they want what is best for their son."

— *Gregg Keizer*

Short Takes

- Lawrence Yontz, a former U.S. Department of State employee, has pleaded guilty to illegally accessing confidential passport records of celebrities, politicians and other public figures. He faces a year in prison.
- A federal appeals court ruled that Qualcomm Inc. infringed on two Broadcom Corp. patents. It also upheld an injunction prohibiting Qualcomm from selling products that use the patents.
- McAfee Inc. agreed to buy Secure Computing Corp. for $465 million. Secure Computing will become part of McAfee's network security unit.

CORRECTION

"Great Gadgets for the Digital Nomad," a story in the Sept. 15 issue, incorrectly stated that Zagg Inc.'s InvisibleShield protects keyboards from spills and dust. In fact, the ultrathin plastic film is designed to protect the surface of laptops, cell phones and other devices from scratches.

SOFTWARE

IBM Threatens to Withdraw From IT Standards Bodies

IBM is threatening to drop out of IT standards organizations if they don't set rules that prevent vendors from abusing the groups' decision-making processes.

A new set of participatory guidelines developed by IBM encourages standards bodies to take action to avoid "undue influence" – a clear reference to rival Microsoft Corp., which got its Office Open XML file format accepted as an ISO standard earlier this year.

But withdrawing from a standards organization would be a "last resort," said Bob Sutor, IBM's vice president of open source and standards. "We see this very much as a positive, constructive policy for how we hope to engage," he added.

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IBM was one of the most vocal opponents of the Open XML proposal, which was submitted to ISO under a fast-track approval process that critics contend resulted in a low-quality specification.

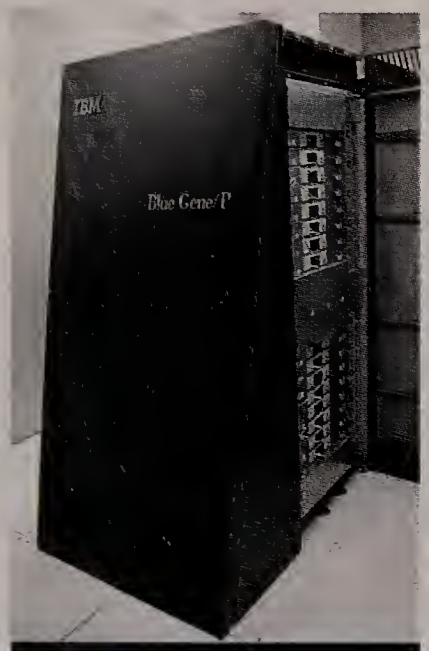
The new guidelines were born out of IBM's frustration with that process, said Andrew Updegrove, an attorney at Gesmer Updegrove LLP in Boston. Updegrove, who has also criticized the Open XML deliberations, took part last spring along with about 70 other people in an online discussion that IBM used to help devise its guidelines.

Losing IBM as a member wouldn't cause a standards body to fall apart, Updegrove acknowledged. And, he noted, IBM would be giving up the ability "to push its favored standards through the system."

– JEREMY KIRK, IDG NEWS SERVICE

HARDWARE

Supercomputer Plan Takes Flight in Saudi Arabia



The IBM Blue Gene/P

A SUPERCOMPUTER that could rank among the world's most powerful systems will be installed at Saudi Arabia's new King Abdullah University of Science and Technology next year.

The IBM-built system, named Shaheen (Arabic for "peregrine falcon"), is a 16-rack Blue Gene/P system with 65,536 processor cores that deliver speeds of up to 222 TFLOPS.

The supercomputer is being built at IBM's T.J. Watson Research Center in Yorktown Heights, N.Y. IBM estimated that Shaheen will be the sixth-fastest supercomputer in the world when it's installed, but the university plans to quickly add capacity, creating a petascale system in two years.

King Abdullah University in Thuwal is due to open in September 2009. Its data center, which will house the supercomputer, is slated to open next summer.

"The best thing about [the new university] is we have no legacy systems and no legacy thinking," said interim CIO Majid Al-Ghaslan.

Al-Ghaslan said researchers will use the supercomputer for a wide range of work in life and physical sciences, including processing and studying data for the country's massive oil fields. The system will also be used for high-performance computing research, he said.

Officials hope Shaheen will help attract scientists from around the world to the university. "World-class scientists expect world-class facilities," Al-Ghaslan said.

The world's largest supercomputer, IBM's Roadrunner, housed at Lawrence Livermore National Laboratory, crossed the petascale mark in June, with 1.026 quadrillion calculations per second.

— Patrick Thibodeau

BETWEEN THE LINES

By John Klossner

BENCHMARKS LAST WEEK

Microsoft Corp. released Windows HPC Server 2008 to manufacturing. The new operating system is an upgraded and renamed version of Windows for high-performance computing.

Unisys Corp. said that CEO Joseph McGrath will step down by year's end. The server and IT services vendor has started searching for a replacement.

39 YEARS AGO: *The Hartford Courant* predicted that telecommuting would be common in the U.S. by 2000, in a story headlined "Future Worker May Stay at Home, Be Linked With Office Via Computer."

Global Dispatches

Wireless Network Rolled Out in Iraq

BALAD, Iraq – U.S. military personnel at Joint Base Balad here have started using wireless Internet connections on a subscription basis via a satellite uplink and a ruggedized wireless LAN.

Lucas Catranis, president and chief technology officer at Babylon Telecommunications Inc., the integrator on the project, said that about 1,000 soldiers and airmen are paying $60 (U.S.) per month to send e-mail and browse the Web.

The network is still under construction. When it's finished in November, Catranis expects that 20,000 enlisted personnel will have access to it.

Babylon has so far equipped the base with about 250 ruggedized Wi-Fi access points from Aruba Networks Inc. The network is privately funded, generating revenue from subscriptions.

Matt Hamblen,
Computerworld

Samsung Unveils First Netbook

SEOUL, South Korea – Samsung Electronics Co. last month unveiled its first netbook computer, a lightweight mini-laptop with a 10.2-in. screen.

Based on Intel's Atom microprocessor, the NC10 runs Microsoft Windows XP. Samsung said it has no plans to develop a Linux-based model.

The company will offer 80GB and 160GB versions of the netbook. Each will include a 1.3-megapixel digital motion camera and offer Bluetooth 2.0 wireless connections to other devices.

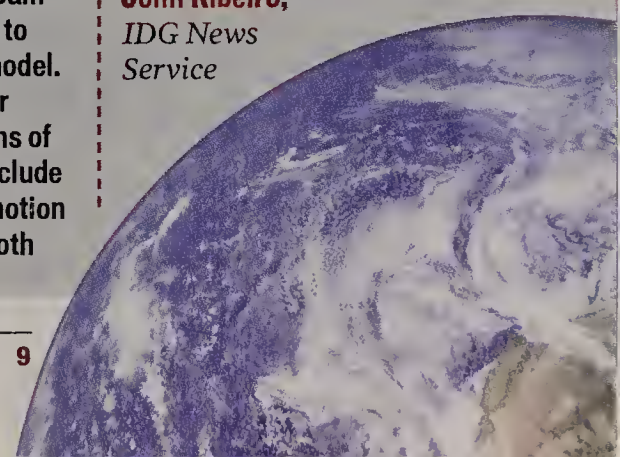
The NC10 will be available in much of Asia and Europe in October, and in the U.S. in November.

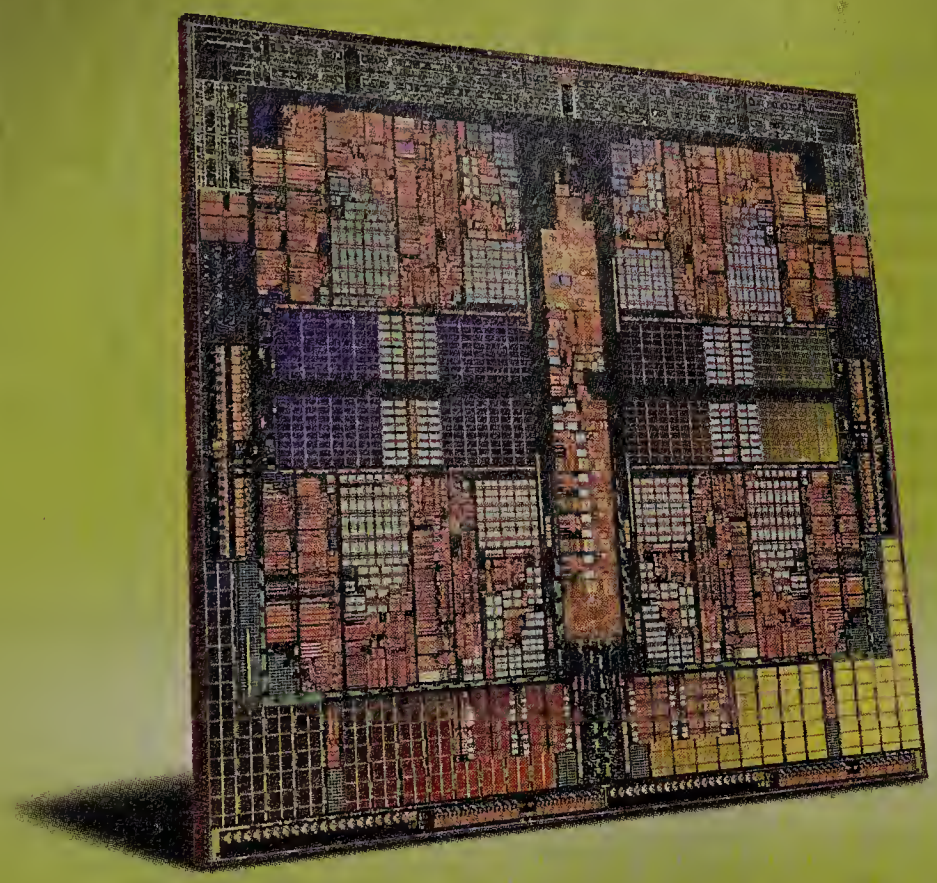
Dan Nystedt,
IDG News Service

BRIEFLY NOTED

IBM last week announced the opening of four offshore cloud-computing centers where big companies, universities and government agencies will be able to test Web-based services and applications. The centers are located in Bangalore, India; Hanoi, Vietnam; São Paulo, Brazil; and Seoul.

John Ribeiro,
IDG News Service





Software has yet to take advantage of multicore chips such as AMD's Phenom quad-core processor.

Software Holding Back Spread of Multicore Chips

Software vendors are slow to take on the heady challenge of upgrading their apps. By Sharon Gaudin

TRYING to boost the IT capabilities at his digital forensics company, Brian Dykstra invested in servers equipped with quad-core processors. After all, he figured, having more cores means a more powerful machine that can do far more work than single-core systems.

However, after shelling out money for the new technology, Dykstra found that three of the four cores were sitting idle because the software he was running wasn't built to make use of multiple cores.

Dykstra isn't alone in his disappointment with the lack of software for multicore chips. As hardware makers increase the number of cores in single chips, most software simply isn't keeping pace, creating a huge drag on efforts to take advantage of potentially significant hardware-based performance improvements.

In order to see that performance boost, software running on multicore chips must be built to let different cores handle different tasks in an application at the same time.

Dykstra noted that while some server software from major vendors such as Microsoft Corp. and Oracle Corp. has been partially multithreaded, there is a dearth of such applications.

Once Dykstra, co-founder and a senior partner at Jones Dykstra & Associates in Columbia, Md., had compiled a list of his firm's most critical software, he picked up the phone and started haranguing the vendors to add support for the chips. He didn't identify the vendors he contacted.

Some IT managers have been able to cut costs and hardware needs by using the multicore technology in virtualization projects.

For instance, when a company virtualizes with multicore systems, each core is assigned its own virtual machine, allowing each to run a separate application.

Virtualization on multicore chips is working out very well for Bruce McMillan, manager of emerging technologies at the U.S. division of Solvay Pharmaceuticals Inc. in Marietta, Ga. He has scaled up his virtual machine total by 50% while cutting the number of physical servers in his data center almost in half.

McMillan said he had been running 100 virtual machines on eight servers with single-core processors. He added two dual-core servers about a year ago and was able to scale from 100 to 150 virtual machines.

About a month ago, Solvay installed a quad-core server and retired three single-core servers. The company is now in the process of adding two more quad-core servers, which will replace all of its remaining single-core systems, according to McMillan.

"It's saved me $500,000 just in hardware costs" so far, he said. "I can have much higher consolidation ratios than I had before."

McMillan said he's look-

Continued on page 12

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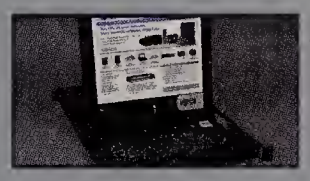
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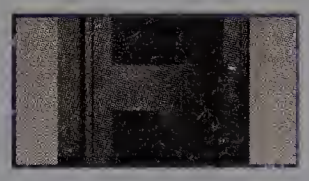
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Continued from page 10

ing forward to getting more multithreaded software, but for now, he's happy that the multicore machines are allowing him to do more work with less hardware.

"It's a new level of scalability," McMillan said. "It's enabled us to really reduce our footprint in the data center. It's reduced our cooling costs. It's giving us less physical servers to manage. The maintenance contracts are cheaper. We're using fewer network portals because we have fewer machines."

The lack of multithreaded software certainly hasn't slowed the development of multicore processors by the world's top chip makers.

Just this month, Intel Corp. released its new Xeon 7400 server processor series, which includes six-core technology — a new high-water mark in the semiconductor industry.

And while the step from quad-core to six-core processors was a big one, Intel is expected to soon go a step further.

Eight-core versions of the company's next-generation chip, dubbed Nehalem, are expected to go into production next year. The first releases of the Nehalem chip family are expected to be quad-core server chips that will ship in the fourth quarter of this year.

At the same time, Advanced Micro Devices Inc., still far behind rival Intel in producing chips with more than four cores, has released its own road map for pushing the processor envelope.

The Sunnyvale, Calif.-based company expects to ship its six-core Istanbul server processor in the second half of 2009 and a 12-core server processor during the first half of 2010.

And IBM is building supercomputers that run the eight-core Cell chip, which the company jointly developed with Sony Corp. and Toshiba Corp. to run large computations on Sony's PlayStation 3 video game system.

Possibly the farthest-reaching project is under way in Intel's research labs, where engineers are working on an 80-core processor. The company showed off the technology, still in development, at a conference in early 2007.

Though there have been no publicly announced plans to actually build an 80-core chip, analysts say the research into it hints at the future — possibly the not-so-distant future.

"You know, at this point, everyone knows we're going to go up with the multicores: quads to six, to eight, to 12 cores," said Jim McGregor, an analyst at In-Stat in Scottsdale, Ariz.

"The road maps are out there for multiple cores," allowing IT managers to start planning to take advantage of the technology, he noted. "We know the track the technology is taking. This is an evolutionary cycle."

McGregor said he expects to see 16 cores on a chip in 18 months to two years. He noted that the chip-making industry is almost to the point where it's doubling the number of cores on processors every two years.

VALUE PROPOSITION

The task for IT executives today is to try to determine how helpful that doubling — or any increase in processor cores, for that matter — might really be until the software problem is solved. Just ask Dykstra.

"It's really disappointing when you fire up a quad-core and then you see it's really only running on one core," Dykstra said. "All that extra money and expense, and you're not really getting a boost in speed."

"It's really disappointing when you fire up a quad-core and then you see it's really only running on one core.

BRIAN DYKSTRA, CO-FOUNDER AND SENIOR PARTNER, JONES DYKSTRA & ASSOCIATES

In most cases today, only one core of a quad-core chip is used to run software "to its max usage potential, while the other three cores are just sitting there doing nothing," Dykstra said. Taking advantage of all the cores, he added, would boost performance by 300%.

It would also mean that data would be processed and sent out to customers more quickly, Dykstra said. "That's why we go to vendors and harangue them to do better."

But analysts say the effort to get multithreaded software could take longer than many IT managers hope.

The primary reason for this is that building multithreaded software is expensive. It's also a difficult task, especially for the many developers who learned how to code single-threaded software and have done nothing but that for years.

"We have a serious developer problem. People just don't know how to develop" for multicores," said Rob Enderle, an analyst at Enderle Group in San Jose.

"The environment has been single-threaded for so long that developers really haven't developed the skills. It's difficult to take things apart, make them run separately and then have them come together perfectly at the end," he said.

Margaret Lewis, director of commercial solutions at AMD, predicted that software companies will make major advances in writing multithreaded code within five years.

But even when multithreaded software starts flowing from vendors, it won't help the many large companies that run internally developed and legacy applications that can't easily be replaced. Eventually, organizations that want those applications to use multicore processors will have to replace the software or take on the massive job of rewriting it.

Today's volatile economy also isn't helping the cause of multithreaded software development, since companies must prove a strong business benefit when seeking to build or buy new technologies, noted Joanne Kossuth, vice president of operations and CIO at the Franklin W. Olin College of Engineering in Needham, Mass.

"In the economic arena we're in right now, cost is critical," she said. "How much will those 12 cores cost, and then what am I going to not be able to do? Will I be able to get rid of servers? Will I be able to consolidate?

"We can't just ask for the new toys anymore," said Kossuth. "There has to be a business application for them." ■

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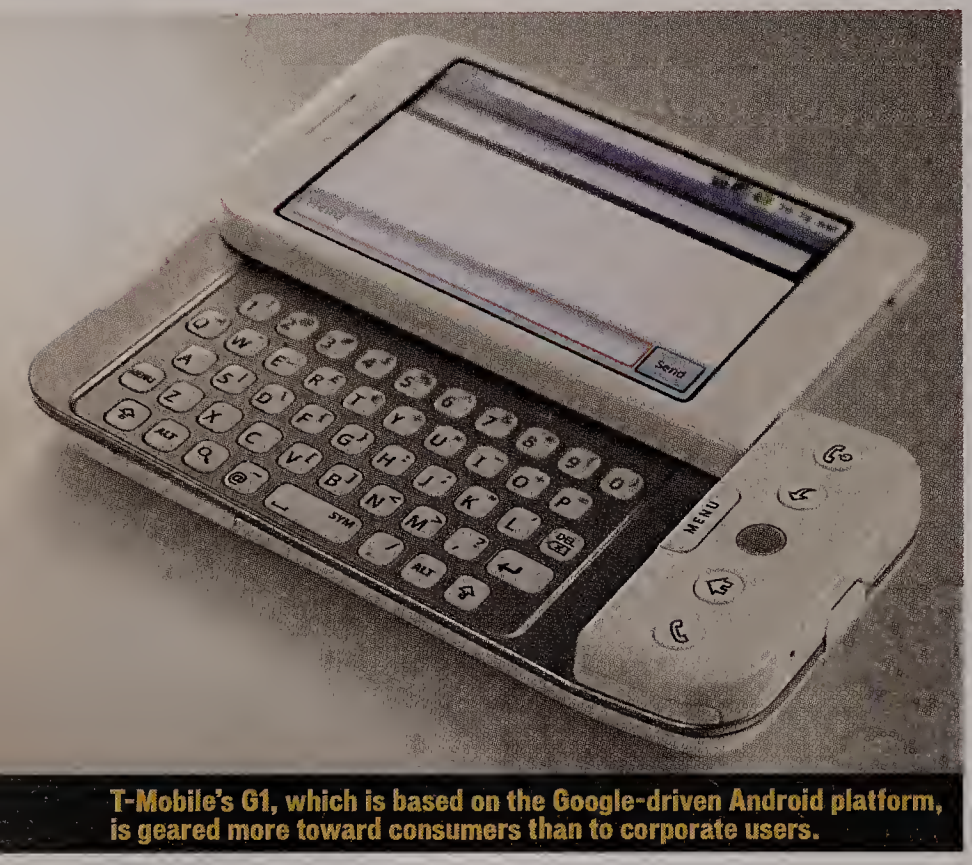
First Android Phone Won't Push IT's Buttons

The Google-backed G1 lacks Exchange support and is tied to T-Mobile's networks. So its business uses likely will be limited — for now, at least. By Matt Hamblen



T-Mobile's G1, which is based on the Google-driven Android platform, is geared more toward consumers than to corporate users.

THE FIRST cell phone based on the Google-driven Android mobile platform features an iPhone-like touch screen, a full slide-out keyboard and a bevy of built-in Google applications.

But despite Android's vaunted openness, the G1, which was announced last week, will be locked to T-Mobile USA Inc.'s wireless networks. And T-Mobile, which launched the new device along with Google Inc. and hardware maker HTC Corp., acknowledged that the phone is geared more toward consumers than to corporate users.

The lack of support for Exchange or another robust e-mail system will limit the G1's usefulness to all but the smallest businesses, said Jack Gold, an analyst at J.Gold Associates LLC in Northboro, Mass. "You can't use Gmail in the enterprise," he said, referring to Google's e-mail application.

Whether the G1 will offer native encryption or other basic security capabilities "remains an unanswered question," Gold added. And locking the phone to T-Mobile "is a problem, absolutely," especially for potential business users, he said. In a recent survey of 290 North American businesses that Gold conducted, only 8% of the respondents reported that they use T-Mobile as a carrier.

T-Mobile and Google have made it clear that the G1 is "not really for the business user," said Kevin Burden, an analyst at ABI Research in Oyster Bay, N.Y. But in the future, other carriers could easily offer Android phones with added features, including Exchange, Burden said.

Andy Rubin, senior director of mobile platforms at Google, said users will be able to read Word documents, PDFs and Excel spreadsheets on the G1, which is slated for release in the U.S. on Oct. 22. And the absence of Exchange support provides "a good opportunity for third parties" to develop applications that are compatible with the Microsoft technology, he said.

APPLE COMPARISONS

Inevitably, users will compare the G1 to Apple Inc.'s second-generation iPhone 3G, which includes Exchange support and other enterprise-friendly features.

Brant Castellow, a regional sales executive at Correlagen Diagnostics Inc. who also handles IT tasks for the Waltham, Mass.-based genetic testing company, uses an iPhone 3G for various business functions. He plans to check out the G1, but he said his initial impression of the phone is that "it looks a little quirky and is not that sophisticated."

And with such a heavy focus on integrating Google applications into the device, he said, "won't they have a tough time capturing the business user like me?"

Nonetheless, some IT managers are preparing to support the G1 within their organizations, anticipating that end users will buy the new phone themselves and then want to use it for business purposes.

Big companies need to stay current on devices like the G1, if only so they can respond to employees who bring them to work, said a networking executive at a major U.S. corporation.

The executive, who asked not to be identified, said that future Android phones likely will be more business-focused. "It will be similar to the iPhone, which started more for consumers and spilled over to the enterprise," said the executive, whose company is already running a business application on the iPhone.

Jorge Mata, CIO at the Los Angeles Community College District, a federation of nine schools with a total of 140,000 students and 10,000 workers, said the G1 is a "strong first salvo" for Google in what he described as a "*Clash of the Titans* scenario" with Apple and other cell phone vendors.

Enterprise deployment tools and support for exchange are needed to spur widespread corporate adoption of the G1, Mata said via e-mail. He added that for now, at least, the new phone "is not as sexy as the iPhone."

But Mata said his team will begin supporting the G1 as soon as it's available. The built-in QWERTY keyboard will make the phone useful for online discussions, he noted, and the G1 "seems to be a device that will evolve to meet the needs of our staff." ■

BILL REITZEL

Dossier

Name: Judy Estrin

Title: CEO

Organization: JLabs LLC

Location: Menlo Park, Calif.

Favorite technology: "Networking, of course – the various devices that help me stay connected via e-mail, phone, text and the Web."

First job: Teaching and performing folk dancing

Philosophy in a nutshell: "Everyone is a package deal."

Favorite vice: Chocolate

Pet peeves: "Questions like this. Also, closed-minded people."

■ THE GRILL

Judy Estrin

The author of *Closing the Innovation Gap* talks about what **Six Sigma** and **No Child Left Behind** have in common, why **success is bad for us,** and **which presidential candidate** is more likely to meet our current 'Sputnik' challenges.

Judy Estrin is the author of the recently published book Closing the Innovation Gap *(McGraw-Hill). She was chief technology officer at Cisco Systems Inc. and co-founded Bridge Communications, Network Computing Devices and Precept Software.*

Fortune *magazine has named her one of the 50 most powerful women in U.S. business three times. She's on the boards of directors of The Walt Disney Co. and FedEx Corp. and on the advisory councils of Stanford University's School of Engineering and Bio-X initiative. She holds degrees in math, computer science and electrical engineering from Stanford and UCLA.*

What prompted you to write *Closing the Innovation Gap*? I was driven by a passion, or maybe a frustration. I was fortunate to build my career at a time when innovation was really flourishing in this country. But I was frustrated that people had become very short-term focused. Innovation is the only hope we have of addressing the major challenges we face as a country and as a planet.

What do you mean by "innovation"? I think of sustainable innovation, which goes beyond the single-discovery idea. What you really need is ongoing change and innovation in research, development, and applications of science and technology. It's really important to talk about all three of those areas; too

"During the dot-com bubble in the late '90s – which some see as the height of innovation – even the start-ups stopped innovating.

many people forget about one or two of those things.

You argue that in some ways, we in the U.S. have been *too* successful. Success and scale threaten innovation. It's much easier to stifle innovation than it is to allow it to grow, and a natural inclination in the country and in the business world is to put in rigid processes, policies and metrics — things like Six Sigma or No Child Left Behind. Some of those things actually discourage the behaviors you need for innovation.

We need what I call a capacity for change, and that comes from questioning, a willingness to take risks, patience and trust. And those tend to get undermined when you put in those innovation-killers. And the reason success often stifles innovation is that successful people often stop questioning. They stop being open to change, and that's why you see so many successful companies unable to transition to a new market.

Something like the iPod is the result of decades of innovation, and so we are harvesting innovation, but we are not planting seeds for the future. We have become so shortsighted that research, development and applications are out of balance. Most companies really don't invest for the future the way they used to because they are so pressured to look at the next quarter's earnings. Solving this will take significant change in leadership, policy, funding, education and culture in the country and in our businesses.

But isn't there a huge amount of innovation and "seed planting" in Silicon Valley, where you are from? During the dot-com bubble in the late '90s — which some see as the height of innovation — even the start-ups stopped innovating. They went to short-term innovation. Everyone was trying to go so fast, they stopped really thinking about the future. Then, in 2000, everything turned bad. The dynamic between start-ups and venture capitalists changed when the bubble burst. We had the corporate scandals and 9/11, and the country became very risk-averse. And we have had eight years of policy and leadership for the country that has not had a commitment to science and technology, so research funding has dropped dramatically.

What does the future hold for us in this regard? I interviewed more than 100 people for my book. Some of them would look at me and say, "Judy, forget it. America's time as a major force is done." But others would say, "There is no problem. Market cycles just go up and down, and the market will take care of itself."

I don't believe either one of those. I think the situation can be turned around. The question is, do we as a country, and our business leaders, have the courage and commitment and vision to turn it around? These are not easy problems. Look at the culture of instant gratification in this country; everyone wants everything yesterday. And technology — especially the Internet — has helped to create that.

Which of the presidential candidates would help most with the problems you cite? I believe we need change, but not just in the president; we need change in the way the dynamics in Washington work. I talk about the capacity for change, the ability to adapt on an ongoing basis. If you are going in the wrong direction, you say you are wrong and you change with new data. When I look at the two candidates, I believe that Obama has more of leadership and inspiration and capacity for change than McCain does.

Some people say we need another Sputnik – the Russian satellite whose launch in 1957 spurred a huge push in science and technology in the U.S. We have four Sputniks now, at least. First, we must reduce our dependence on oil. Second, we must maintain the health of our planet's ecosystem, but in a way that does not compromise technological and economic progress. Third, we need to make quality health care broadly available. And fourth, we need to protect the security of our country. We should use these challenges as opportunities to rally the nation's businesses, scientists and academics. I think IT has a really interesting role to play in all these areas. Technology shouldn't be seen as a vertical [industry]. It is one of the cornerstones of driving innovation and solving these problems.

What do you remember of working with Vint Cerf at Stanford on the development of TCP in 1975, when you were 20 years old? I was the junior member of Vint's research team. My job on the TCP protocols was to do a lot of testing, and I got up in the middle of the night to go to the lab. We were testing with University College London, and we had to be up at the same time to send "hello" messages back and forth. So I remember sitting in the basement of the lab sending these messages at 3 a.m. We knew at the time that this was something important, but I don't think any of us guessed how much it would change the world.

— *Interview by* **Gary Anthes**

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"I hope Jenkins knows the next wrong move will send this overly complicated mess tumbling down."

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OPINION

John D. Halamka

What I Did on My Summer Vacation

I JUST TOOK a two-week vacation and, even better, a connectivity holiday. I didn't go entirely without e-mail, but living without e-mail isn't viable long term. By scaling back instead, I may have found a way to a saner relationship with e-mail now that I've returned.

From Aug. 8 to 12, I was on the John Muir Trail in the Sierra Nevada mountain range, 50 miles from the nearest cell tower. In other words, it was impossible to make phone calls or connect to e-mail and the Web. I left all my devices in the car.

When I returned to Tuolumne Meadows in Yosemite, I turned on my BlackBerry, downloaded over 1,000 messages and used the following e-mail triage criteria:

1. If the e-mail was a CC or FYI, I read it, deleted it and didn't respond.

2. If it was from a vendor, I deleted it without reading it. After my vacation, I would have plenty of time to review products.

3. If the e-mail was from my staff asking me to help with a project or budget issue, I responded.

4. If it was from a customer who needed a question answered or wanted to make a complaint, I responded.

For the rest of my vacation, through Aug. 22, I used this same triage technique. I ended up sending about 10 e-mails a day. I made no phone calls. Normally, I probably send out about 300 e-mails and make 20 phone calls.

When I reconnected to a network on Aug. 22, I simply highlighted the thousands of e-mails in my in-box and pressed Delete.

It was liberating.

I know that I left hundreds of vendor questions unanswered. But I also know that I read every e-mail that contained an FYI and that I responded to every customer or staff need. As of early September, I've received only two or three resends from folks who wanted a response while I was on vacation. I've suffered no negative consequences from deleting all those thousands of e-mails sent to me in August.

When I reconnected on Aug. 22, I deleted thousands of e-mails.

My ability to send just 10 e-mails a day and keep the peace raises the question: Have we created an e-mail culture that is so overwhelming that we need to spend hours a day just keeping up with our in-boxes? Maybe a bulk delete — the equivalent of declaring e-mail bankruptcy — is something I should try now and then as a way of cleaning the slate.

If I lose anything important when I do that — if there are issues that I failed to resolve or areas where I need to intervene — I'll receive a follow-up e-mail asking for help.

My experience during the two weeks of my vacation taught me that we are often too quick to send an e-mail, escalate a problem or delegate simple issues. In the days before e-mail, we may have been more productive just because instant communication was not available and we were forced to work out problems on our own.

Of course, all my staffers were very supportive. The fact that I could delete thousands of e-mails without consequence is a tribute to their ability to resolve complex issues independently.

My connectivity holiday extended to complete separation from news, RSS feeds and my blog. All that keyboard time was replaced with family time and the joy of not knowing what time of day — or even what day — it was.

I always get a great deal from vacations. Over the years, I've learned alpine climbing skills, enjoyed the time I've gotten to spend with my family, and derived the satisfaction that comes from having to focus on the basics of eating, sleeping and avoiding sunburn.

This year, I learned that an e-mail and connectivity holiday is possible. If you sent me an e-mail in August that I didn't respond to, and if the issue you were addressing is still important, send it again. Otherwise, relish the digital silence! ■

John D. Halamka *is CIO at CareGroup Healthcare System, CIO and associate dean for educational technology at Harvard Medical School, chairman of the New England Health Electronic Data Interchange Network, chair of the national Healthcare Information Technology Standards Panel and a practicing emergency physician. You can contact him at jhalamka@caregroup.harvard.edu.*

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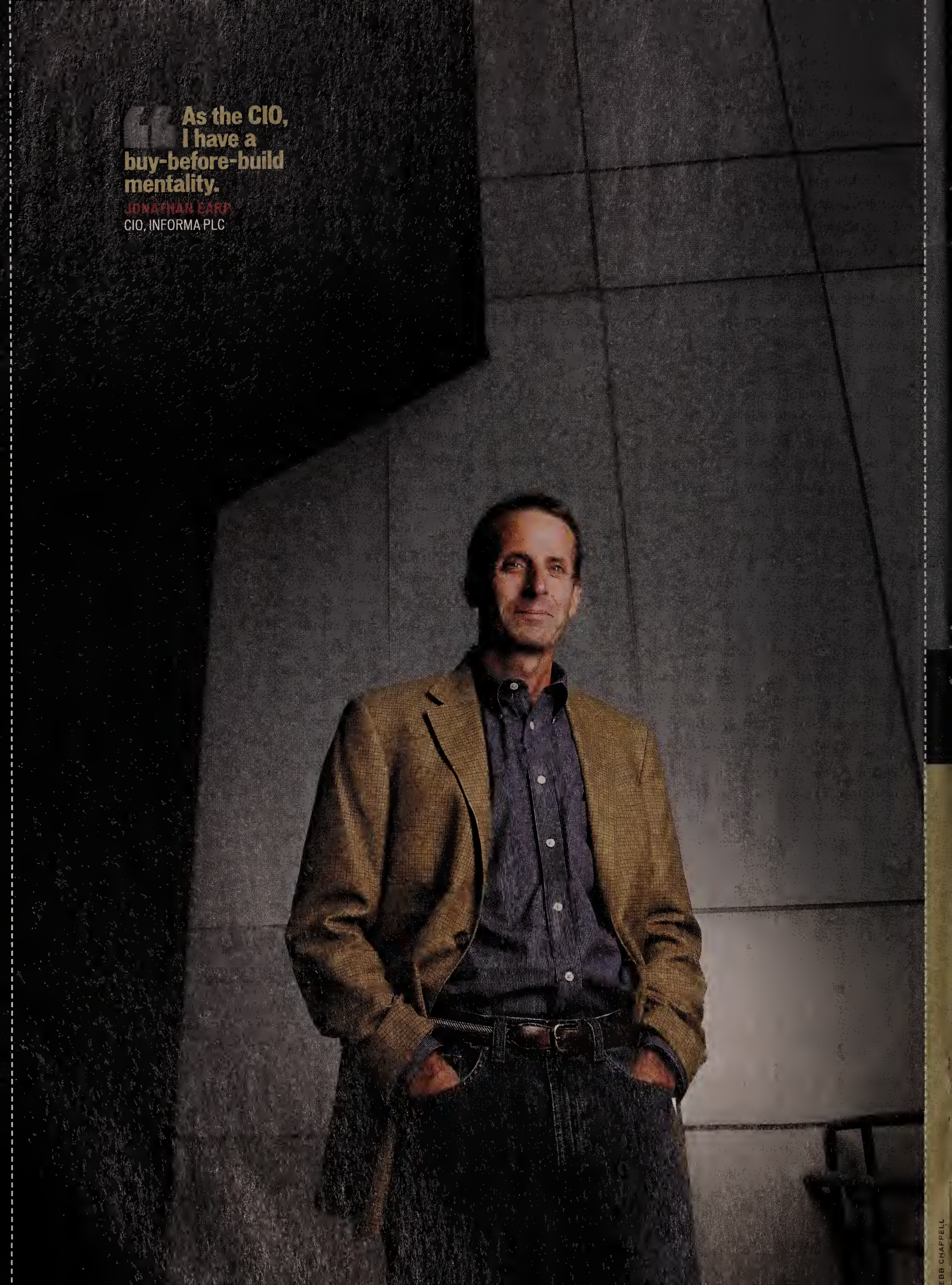
“As the CIO, I have a buy-before-build mentality.”

JONATHAN EARP,
CIO, INFORMA PLC



WEBB CHAPPELL

Sold on SaaS

Four companies that swear by software as a service tell why. By Gary Anthes

SOFTWARE as a service has so delighted CIO Jonathan Earp at Informa PLC that he's positioning his company, and his IT staff, for the next step. That's a move to the broader concept of cloud computing, which provides other resources in addition to application software as Internet-based services. "Instead of buying another million dollars' worth [of storage], I'm asking my storage engineers to change their strategies to include outsourced storage as a service," says Earp.

He's sold on SaaS and on cloud computing. "I think this is revolutionary," Earp says. "I think the number of servers in our data center will drop significantly over the coming years. If you are a start-up now and you are buying a server, you haven't really done your homework."

Computerworld recently checked in with four companies that have done their homework. We found the typical pros and cons with SaaS, as well as some less obvious issues. But overall, enthusiasm among users was high.

SaaS to The Rescue

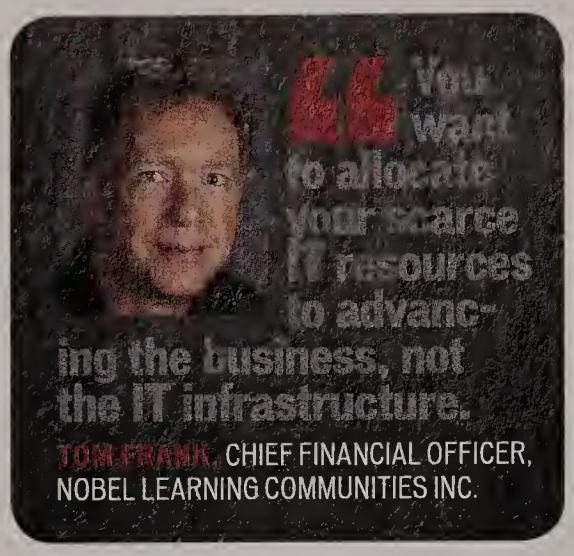
COMPANY: Nobel Learning Communities Inc.
LOCATION: West Chester, Pa.
BUSINESS: Management of 160 preschools and elementary and middle schools in 13 states

Tom Frank is pretty, well, frank about what he found at Nobel when he got there in 2004. "The company wasn't in very good shape, and one of the things it lacked was any kind of IT infrastructure," says Nobel's chief financial officer.

There were 150 databases, and each school had its own systems and its own financial chart of accounts. "We had a hard time understanding what the heck we were selling," he says.

But there were systems — if you count the backs of envelopes and DOS-based PCs. "We had to make the information more uniform, and we had to get control of it," Frank says. "We looked at software as a service. It was a way to quickly ramp up without trying to develop our own [software] or pick up a product and modify it."

Developing or buying systems would have required building or leasing a data center, he notes.



Instead, Frank contracted with NetSuite Inc. to provide financial and CRM applications via a Web-based service. He got them running in just 45 days.

Frank says he's thrilled with the results, but he acknowledges that SaaS has drawbacks. "You are pretty much subject to what they determine to be best for a large majority of their customers," he says. For example, NetSuite offered a report comparing actual to budgeted financial data but none that would compare current-year actuals and current-year budget against prior-year results. Nobel ginned that up with Excel spreadsheets, extracting the required data from NetSuite.

Scott Witmoyer, vice president of IT at Nobel, says SaaS users also sacrifice something in the way of flexibility. SaaS vendors tend to offer just one version of an application — that's where the economies come from — and when it's time to migrate to a new release, users generally must go along. "That could be a problem if you are midstream in an end-of-quarter close and you want your applications to be incredibly stable during that time," Witmoyer says.

Should users test these new releases? "Absolutely," he says.

Witmoyer adds that SaaS customers must live by the 90/10 rule — "You'll get 90% of the functionality you need, but for the other 10%, you'll need to figure out another way."

Asked if forgoing that 10% is worth it in return for the other advantages of SaaS, he and Frank answer simultaneously, "Absolutely."

Frank sums up the argument for SaaS this way: "You want to allocate your scarce IT resources to advancing the business, not the IT infrastructure."

The Scoop on SaaS

Software as a service is a form of IT outsourcing in which users tap into the applications they need on the servers of other companies rather than license or develop software and run it in-house. Although it is hardly new – companies have done that with their payroll systems for decades – it is part of a rising wave that includes utility computing, cloud computing, grid computing and virtualization. In all of these, hardware or software recedes from the view of users. And, often in the case of SaaS, from the control of the users' IT department.

SaaS lets you get up and running quickly, and it offloads to someone else the development, testing and maintenance chores, not only for the software but for the hardware it runs on. Users say it is especially attractive in these times of economic difficulty because it allows you to "buy IT by the yard," in amounts appropriate for changing needs and budgets.

On the downside, ongoing fees paid to the vendor can be high, and the user arguably has less control over application features, the timing of new releases, reliability and security.

– GARY ANTHES

SaaS Showdown

COMPANY: Informa PLC
LOCATION: London
BUSINESS: Scientific, academic and professional information services, databases, conferences and training

Informa has a diverse product line and is a decentralized organization, with offices in 40 countries and regional CIOs. The company's IT reflects that model, says CIO Jonathan Earp, who is based in Westboro, Mass. And therein was the problem.

Informa had centralized SAP systems for back-office functions like accounting, but each of the front offices — where sales and marketing took place — "was left to find its own solutions," Earp says. Even more diverse systems came in via a string of acquisitions, and by 2006, it was time to bring some order to the chaos.

So Informa standardized on a sales force automation offering from SaaS provider Salesforce.com Inc. Many of the old sales systems went away as a result. "Functions are more integrated now, more secure, robust and stable," Earp says. "They are also better managed, and that's an important point."

He says Informa was able to tailor the Salesforce.com services for each of its five lines of business.

But while Salesforce.com was the system of choice for Informa's salespeople, the chief marketing officer wanted to tailor a custom-developed marketing system that she had brought in with an acquisition. "We would have had all the problems you'd expect with a custom solution," Earp says. "It wouldn't scale, it was difficult to access remotely from sales offices, there were replication issues and quality issues.

"The chief marketing officer lobbied against Salseforce.com," he recalls. "She called it 'The McDonald's of CRM — tastes great but has no nutritional value.' "

But Earp was adamant. "As the CIO, I have a buy-before-build mentality," he says. "I was going to go into building my own CRM system kicking and screaming." He finally got permission to go forward while the chief marketing officer worked on her custom system.

Now, two years later, the custom system is still in development, he says. And although it might not have been possible two years ago, systems from Salesforce.com and its partners are now capable of performing the marketing functions as well as the sales functions that Informa requires, rendering the custom marketing system redundant.

Earp says that SaaS offers a huge advantage over both custom development and in-house implementation of a commercial package such as SAP's CRM

software because SaaS tools are easy to roll out to users a little at a time in a rapid prototyping fashion. This is important, he says, because even a package implementation involves a lengthy period of requirements definition, during which miscommunications inevitably occur.

"With SaaS, you are showing users something to react to, constantly," Earp says. "We in IT talk about agile development, but it's very difficult to do that. Business managers are married to their processes until they see something better. And when you go in with a blank sheet of paper, they are not seeing anything better."

Culture Counts In the Cloud

COMPANY: eHarmony.com Inc.
LOCATION: Pasadena, Calif.
BUSINESS: Online dating service and relationship advice provider

For a company like eHarmony, the Web site is everything. The company's success depends on how pleasant and useful the site is for its customers, many of whom are looking for help in times of emotional stress. That's one reason eHarmony decided to devote its scarce IT staff to Web site development and optimization while handing off some everyday IT functions to SaaS provider RightNow Technologies Inc.

But eHarmony had another job for RightNow. It wanted to automate responses to routine questions from customers. RightNow developed dynamic FAQs for eHarmony that improve with use through feedback from customers via surveys. That helped reduce e-mail inquiries by 30%. "Phone contacts went up, but that's what we wanted," says Scott Ackerman, vice president for customer care.

He acknowledges that this is counterintuitive, since most companies want to steer customers away from personal contact and to their Web sites to save money. But eHarmony is different. "Our product is very emotional. Some people are struggling and don't have a lot of confidence, and there's a lot of value in getting them on the phone, where

we can give them much greater value."

Ackerman says the process of embracing SaaS can start with a "black-and-white checklist" of functions, features, prices and so on. But finding a vendor with a compatible culture is important, too. "Like us, RightNow has a culture aimed at providing world-class customer care," he says. "We plan on having a long-term relationship with them, and we wanted a partner that understands our culture. That's critical."

Ackerman says he considered 10 companies before settling on RightNow.

He cautions that just because an SaaS provider has a tried-and-true packaged application, don't assume that users can tap into it like an electrical utility. RightNow provided the plumbing for the knowledge base behind the FAQs, Ackerman says, but eHarmony devotes one full-time person to maintaining and improving them. "RightNow is a great product," he says, "but it's not going to do it by itself. You need to put man-hours into it, and you need to analyze your data. If you just put it out there, it will work, but you won't get the bang for your buck."

SaaS to the Max

COMPANY: Dreambuilder Investments LLC
LOCATION: New York
BUSINESS: Mortgage resolution and investment

Dreambuilder buys "nonperforming" mortgages out of the subprime mortgage swamp, and business is booming. In fact, Peter Andrews, president and founder of the mortgage investment company, says he probably wouldn't have been able to keep up with the growth if he had traditional in-house systems. And it's fortunate he has no in-house systems, since he has no in-house IT staff.

His IT staff works for Salesforce.com. Andrews uses its Partner Relationship Management (PRM) system to manage and track the investment deals that flow through Dreambuilder's national network of partners. He says he uses PRM "out of the box, plus a ton of custom objects" that he wrote himself.

Andrews explains that, although users typically can't modify the software behind SaaS, even nontechnical users can "customize" the application with the standard user interface provided by the vendor. The user just builds and populates tables that become part of the application's database, he says.

"I have a custom object for my private investors, another tracks my deals, another tracks my interaction with the first mortgage, one tracks my note buyers, and so on," Andrews says. "We use PRM to run every aspect of our business, from A to Z."

In addition, Andrews uses another external party to host software for running complex analytics to score mortgages, and he uses EMC Corp.'s MozyPro remote service for data backups. The only IT inside his four walls is the Microsoft Office software running on employees' desktops.

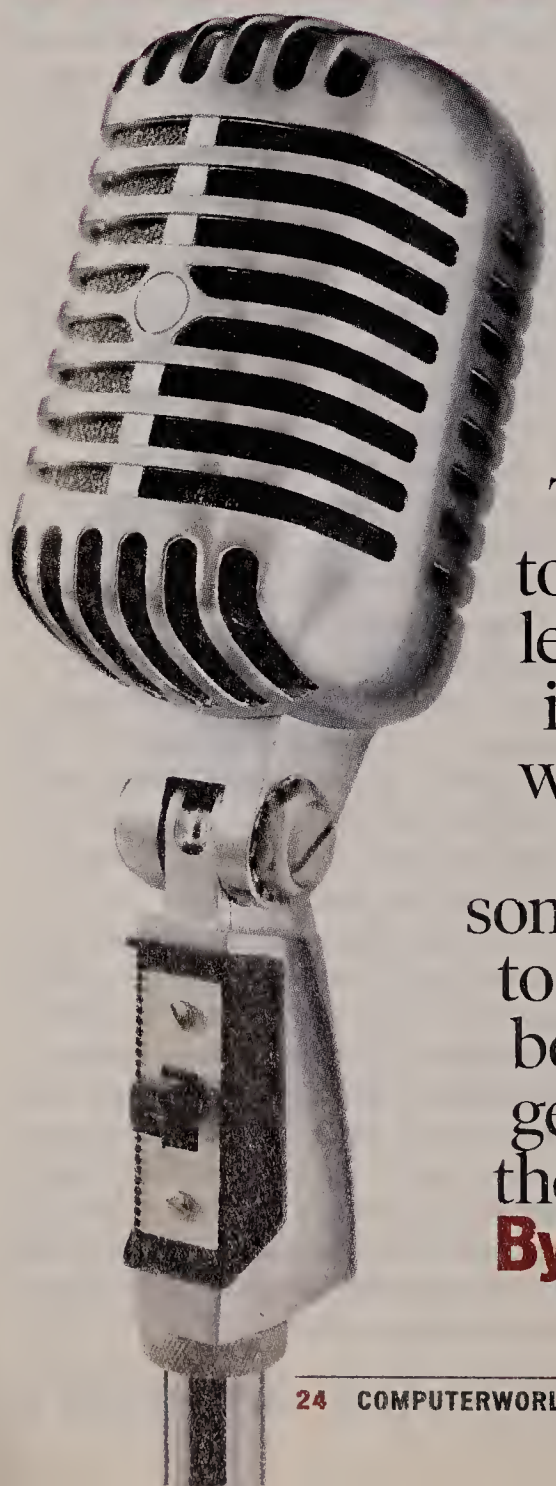
Andrews says his company will do $8 million in business this year and $50 million next year and will be at $200 million within three years.

Won't he want some in-house systems and staffers by then? "No," he says, "because I spend about $2,000 per user per year on Salesforce. So we are spending maybe $60,000 per year, but that's a drop in the bucket compared to what I'd have to spend for an IT infrastructure."

Still, SaaS comes with some built-in worries, Andrews acknowledges. "You are taking a very significant risk that if Salesforce goes down, my company goes down," he says. "But we have been down a total of two hours in two years."

As for security, he says, "they secure the data of some of the largest financial institutions in the world. If [Salesforce] can secure their data, I'm not worried about my data." ■

HOW TO RAISE YOUR PROFILE WITHOUT RAISING A RUCKUS



The road to thought leadership is fraught with peril. Here are some things to consider before you get behind the lectern.

By Mary K. Pratt

RODNEY MASNEY took some heat from his company when his comments recently appeared in a national newspaper.

He was speaking on general trends to a reporter on behalf of the Americas' SAP Users' Group, but when his comments appeared in print, they seemed to stem more from his position as global director of IT infrastructure services at Owens-Illinois Inc., a Perrysburg, Ohio-based maker of packaging materials.

"The executive team saw that and wanted to know why I was speaking on behalf of the company," says Masney. "There wasn't a tremendous amount of damage, but I got called out."

Masney learned from the experience. "All you can say is, 'I'm sorry, and next time around, I'll be more careful to be clear about what organization I'm representing when speaking,' " he says — noting that for this article, he's speaking from his own broad range of personal experiences.

That incident aside, Masney says his work in the spotlight has been positive, bringing him new challenges and skills.

Career counselors and IT leaders alike say that cultivating a reputation as an expert in your industry can be extremely beneficial, creating increased job security, valuable contacts and personal satisfaction.

"It sets you up for long-term career management. And there's a satisfaction that your hard work is paying off — that you're getting recognition for all your expertise," says Pam Lassiter, principal of Lassiter Consulting in Boston.

But as Masney's experience shows, such activities carry risks that can trip up even experienced professionals.

> **"If you have a long-term track record of doing well . . . [that] goes a long, long way.**
>
> **RODNEY MASNEY,** GLOBAL DIRECTOR OF IT INFRASTRUCTURE SERVICES, OWENS-ILLINOIS INC.

You can manage those risks using old-fashioned business skills — such as time management, career planning and relationship-building techniques — as well as healthy doses of cultural awareness and common sense. And it's best to know how to use them before you get behind the lectern.

BIDE YOUR TIME

"You're talking about stepping into the spotlight, so it's very important to think about how you do this and where, to understand what your opportunities are today and what you want for the future," says Marian F. Cook, CEO of Ageos Enterprises Inc., a management consulting firm in Wheaton, Ill.

Cook knows. She started to seek speaking gigs in the late 1990s as a way to build her reputation and the contact list she needed to launch her own business. But those speaking commitments soon took up more and more time without delivering significant value to her.

"I thought I had to say yes to every opportunity, and it took away from my work-life

balance. I was spending too much time, too many nights, doing [presentations] that weren't furthering my own goals," says Cook, who was working in IT strategy for a Chicago-based dot-com at that time.

After several years of this, Cook reassessed her strategy. She became more particular about the speaking opportunities she sought and accepted, judging them by the topics to be discussed as well as the venues where they were scheduled.

Her selectiveness paid off. Cook says she nearly halved the 20 hours she had been spending every month on such activities while managing to get better contacts and increased visibility from the work she did do.

LOOSE LIPS

But the potential pitfalls in building up your reputation as an expert go beyond those that tripped up Cook and Masney.

You could, for example, get overwhelmed with speaking engagements or blogging commitments and neglect your real (paying) job. You could inadvertently reveal proprietary information or destroy business relationships by accidentally saying the wrong thing.

"I was spending too much time, too many nights, doing [presentations] that weren't furthering my own goals.

MARIAN F. COOK, CEO, AGEOS ENTERPRISES INC.

Robbin Goodman worked with an IT consultant who made disparaging remarks about a partner company to a reporter from a major news magazine. The consultant assumed he was just chitchatting with the reporter and was not on the record, but he never indicated that the comments weren't for print. "He put his company's reputation at risk," says Goodman, who is executive vice president and partner in the technology and business services practice at Makovsky & Co., a public relations and investor relations firm in New York.

The resulting story required damage control from the executive team of the consultant's firm.

Some companies have policies designed to head off such indiscretions. Sunoco Inc., for instance, requires peer review of materials intended for presentation — a precaution that also serves as a coaching session, says Peter Whatnell, Sunoco's CIO and the incoming president of the Society for Information Management. IT-related material intended for publication also undergoes a peer review and a check from Sunoco's public relations department to ensure that the content doesn't violate corporate rules by, for example, endorsing specific products or services.

But even with safeguards, you can slip up. Goodman says some people unknowingly violate company policy by including their job titles and company names in their bios when they write or speak as experts. Others surprise — or anger — their bosses and peers by failing to give them a heads-up about their outside activities.

"There is a danger of professional jealousies," says Goodman. But he thinks that more often, colleagues become annoyed when would-be pundits neglect to inform them about their outside activities or request input when appropriate.

"You have to manage your relationships with colleagues and know your company's culture," Goodman says.

These were some of the issues that Richard "Chester" Holleran had in mind when he started to speak on product document management. "I thought through the potential negative consequences and tried to avoid them," says Holleran, a Wilmington, Mass.-based manager of software engineering and IT at Agfa Corp.

He says he turned to the company's lawyer for guidance. Holleran opted to present only at local events, such as regional user-group meetings, declining invitations for out-of-town venues because he didn't want to raise his profile too high too fast. "That would have made it much more of a foreground activity," Holleran says.

In the end, discretion serves as the best protection against potential problems. If you are earnest and diligent, people will be more likely to tolerate the occasional misstep, whether it's a typo in a PowerPoint presentation or a slip-up during an interview.

"If you have a long-term track record of doing well, providing a return for your organization, that credibility goes a long, long way," Masney says. "And that credibility can help smooth over the bumps." ■

Pratt *is a* Computerworld *contributing writer in Waltham, Mass. Contact her at marykpratt@verizon.net.*

THOUGHT LEADER OR LOOSE CANNON?

Here are some tips to help you succeed at positioning yourself as an expert in your field:

DO address topics that you're both expert in and passionate about.

DO take a stand. Offer your opinion and a compelling point of view.

DO discuss current trends and how your business deals with them.

DO get feedback from your manager and your organization's public relations team. They can advise you on how to better present ideas and help line up opportunities.

DO share your experiences, warts and all. Discuss challenges and how you overcame them – or failed to do so.

DON'T misrepresent yourself by inflating your title, position or duties in your organization.

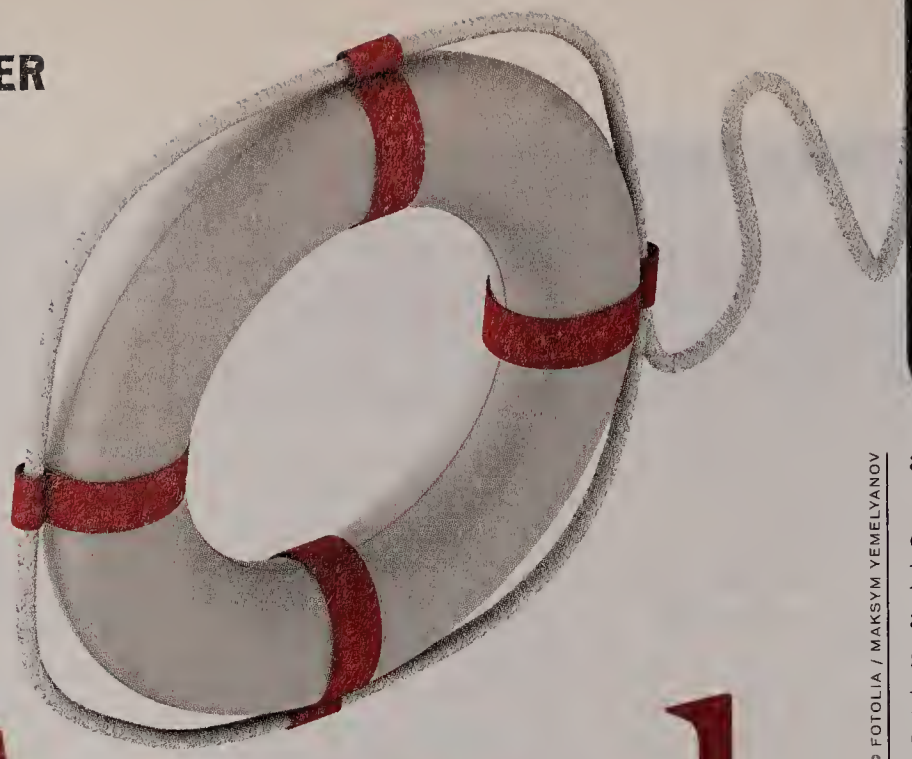
DON'T violate company policies or government regulations, such as quiet periods imposed by the U.S. Securities and Exchange Commission.

DON'T use jargon.

DON'T discuss proprietary information.

DON'T assume that your company condones your activities. Make sure that you have a clear understanding of what your organization allows and prohibits.

SOURCES: BONNI CARSON DiMATTEO, PRESIDENT OF ATLANTIC CONSULTANTS INC.; ROBBIN GOODMAN, PARTNER IN THE TECHNOLOGY AND BUSINESS SERVICES PRACTICE, MAKOVSKY & CO.; PETER WHATNELL, CIO, SUNOCO INC.



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Saved by SaaS

Data backup via software as a service means so long to tapes — if you've got the bandwidth.

By Esther Shein

> "We had an incredible sense of paranoia doing all this extra work, and we needed a better option."
> JOHN SWEIGART, PRINCIPAL, THE BODY SHOP

A DATA STORAGE CRASH is the last thing a collision-repair shop needs to worry about. So when John Sweigart realized that the software he was using to manage his business was no longer compatible with the way he was backing up data, he knew it was time for a different option.

The Body Shop, a Garnet Valley, Pa.-based company that has four locations in Pennsylvania and New Jersey, has hundreds of records, including images that are kept on file for appraisers and insurers for at least a year. "It's tons of information, and we've had occasions where the server's crashed and we lost data," says Sweigart, principal of The Body Shop. "We have paper files, but we still have to go back and re-create the electronic files."

Since his business has multiple pieces of software to back up and no internal IT staff, Sweigart decided to outsource what had become a headache. He chose Verio Inc., a software-as-a-service (SaaS) backup provider. For $29 per location per month, The Body Shop has automatic backup of all its disk drives and servers every night.

RELATED CONTENT
For more on software as a service, see this week's cover story: **Sold on SaaS, on page 20.**

Before switching to SaaS backup, each Body Shop location kept tapes on hand that an employee had to back up and take home at night. "It turned into such a comprehensive process, and you had to make sure it was done right every night and that someone was actually taking [the tape]," says Sweigart. "We had an incredible sense of paranoia doing all this extra work, and we needed a better option."

Data backup continues to be a challenge — at small and midsize businesses in particular — because it requires a multifaceted infrastructure of backup software, networks, servers, disk arrays and tape systems. Many companies have trouble completing backups in the allotted time, and a significant number of backups fail or complete with errors. Often, companies don't protect machines at remote locations because of the hassle, so there are gaps in backup coverage.

Because of issues like these, more companies are turning to SaaS backup providers, which support and maintain a variety of applications over the Internet without requiring their clients to invest in any servers or install any software on-site.

"Companies are feeling more comfortable with the concept of buying services out of the cloud," notes Carl Howe, an analyst at Yankee Group Research Inc. in Boston. "I think there's a perception that if it's good enough for Google, it's good enough for me."

Another reason to offload data backup to a SaaS system is the low cost, which can start at $4.95 per month. But Howe points out that one of the hidden costs of SaaS backup is that companies still have to have a broadband connection and the time to push the data to the service provider.

Using an off-site provider to archive data is not without risks; for instance, the vendors themselves have been known to experience outages. Howe says that prospective customers need to

do their due diligence and find out whatever they can about the provider, including how secure their information will be and how long it will take to recover data when needed. They should also ask about service history with other customers to help determine the stability of the provider and whether it's likely to remain in business over the long term.

Most providers offer backup services on a month-to-month basis. But Howe notes that changing providers may not be as simple as it sounds, so companies should also ask for clear terms: How long is the data kept? Where is it stored? Does it cross national boundaries? Can customers get documented confirmation that the data won't be released?

A pricing guarantee is crucial, too — if you can get one. "You're a tenant at will, and they can change the terms and you as a business have to accept that those terms will change over time," Howe says. "But there's no harm in asking about future pricing trends."

Sweigart says backup is the only IT function he has outsourced, and he has no idea where his data is stored. What's more important to him is the sense of relief he feels coming to the shop in the morning and seeing a message that the backup was successful. "There's incredible peace of mind that the [data] is going out every night," he says.

COMPLIANCE SAAS

Companies that must comply with stringent regulatory requirements, however, need to know where and how their data is stored.

For example, Gene Goroschko, vice president of information systems at Physicians Endoscopy LLC in Doylestown, Pa., says, "Being a medical facility, [backups] are a regulatory requirement, not just a good idea. If there's a disaster, we want to be able to recover medical data regardless of what happened to the facility."

Physicians Endoscopy, which builds and manages ambulatory surgery centers, has 13 facilities around the country, plus a corporate office. Before the company turned to an online service, backup was a manual process. Goroschko's group shipped tapes to each facility, and then each facility contracted with a storage provider in its area. But since the facilities are geographically dispersed, the main office didn't have a good indication of whether the tapes were being handled properly, whether any were lost, or even whether a full system backup was being performed every night.

"Online backup has obviously been around for quite a while, and we decided to try it out," starting with the corporate office, Goroschko says.

He notes that he was surprised by the lack of response from some companies when Physicians Endoscopy asked how well protected its data would be. It evaluated several vendors and chose MozyPro from EMC Corp. about a year ago. Physicians Endoscopy pays a monthly charge of $6.95 for each server, plus $1.75 per gigabyte per month.

Goroschko was concerned about the feasibility of remotely backing up several hundred megabytes of data daily; the corporate office alone would be handling that much. In addition, since the company has mobile employees, it operates almost around the clock, so off-site backup had to share bandwidth with 10 or 11 workers.

"One of the things we liked about the Mozy system is that it can throttle back or control how much bandwidth is used," Goroschko says.

The software allows Physicians Endoscopy to set the hours and amount of data sent. "That wasn't a feature we thought about ahead of time, but it turns out it was the feature we couldn't live without," Goroschko adds.

Today, all of Physicians Endoscopy's facilities except one are doing remote backup through MozyPro. The IT department has a Web-based master account that continuously provides the backup status of each location.

In some cases, backup SaaS comes as a feature of another type of Web-based application. Health First Inc. discovered this when it began using a remote application so nurses could schedule their shifts electronically. Although the health care system's internal IT group takes care of backing up other data for the three hospitals it serves in east central Florida, the scheduling application is backed up by Concerro Inc.

"Once we were aware that this is how this service is delivered, it was frankly a relief," says Jan McCoy, chief nursing officer at Cape Canaveral Hospital, part of the Health First system. "With the hurricane situation we have here, it's good to know the data is protected and we have it when we need it."

But old habits die hard, and even with someone else handling backup concerns, some companies still rely on the manual approach. Physicians Endoscopy hasn't completely given up on the tape-based method, although it has scaled it back to once a week. Says Goroschko, "We're of the strong opinion you can never have too many backups." ■

Shein *is a freelance writer specializing in technology and business. Contact her at eshein@shein.net.*

SaaS Gotchas

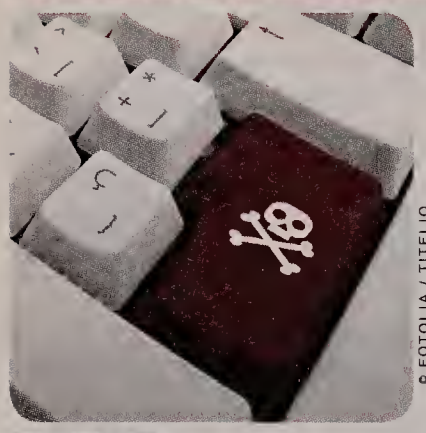
Software as a service has many benefits in tight economic times, but be careful of the following:

- **Long-term cost of ownership.** Don't assume that SaaS is less expensive than a long-term software license. Depending on application type, number of users, and IT efficiencies, that may or may not be so.
- **Hidden costs.** Some SaaS providers charge fees beyond the standard subscription fee. For example, they may demand a payment when clients exceed data storage limitations. There may be other costs that clients forget to factor in, such as the high cost of bandwidth in certain places.
- **Too many niche SaaS applications.** Many SaaS applications cover only a small footprint of functionality, meaning that companies attracted to the SaaS model can quickly find themselves with multiple SaaS applications deployed across the organization. This can create integration headaches and make it difficult to support end-to-end business processes. It can also mean having multiple providers to manage, as well as increased challenges around tracking passwords, access rights and application use.

SOURCE: FORRESTER RESEARCH INC., JULY 2008

Is That Keyboard Toxic?

Nanotechnology promises countless benefits but might pose risks. By Mary K. Pratt



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WARNING: Your keyboard could be a danger to you and the environment.

Sound preposterous? Then consider this: Some keyboards contain nanosilver, which, because of its antimicrobial properties, is increasingly being incorporated into everyday items even though studies have questioned its health and environmental safety.

Studies are raising concerns about the proliferation of nanotechnology, which can be found in numerous products, from IT components to cosmetics.

"The biggest issue around nanotechnology is that we don't know [all of its risks]. We're putting things on the market that haven't been fully tested," says Sheila Davis, executive director of the Silicon Valley Toxics Coalition (SVTC), a San Jose-based advocacy group.

Nanotechnology refers to work done on the nanoscale; 1 nanometer equals a billionth of a meter, or about 1/100,000 the thickness of a sheet of paper.

Use of this technology can save resources and energy. Moreover, nanomaterials offer potential benefits that could revolutionize our world. For example, they could be used to track tumors or clean up contaminated water and soil.

But scientific studies have also found potential health and environmental problems with nanomaterials.

"The nanotech boom is generating an unprecedented number of new processes and materials that pose unknown potential environmental and health hazards," the SVTC stated in its April 2008 report on nanotechnology and its risks.

And research published in the May issue of *Nature Nanotechnology* suggests that carbon nanotubes, which researchers are using to build next-generation circuits, could be as harmful as asbestos.

"We have to consider with new physical properties that there's likely to be a new toxicology profile and do more testing before people are exposed," says Jennifer Sass, a senior scientist at the Natural Resources Defense Council in New York who specializes in toxicology.

Sass' comments bring us back to that keyboard. Does yours contain nanosilver, which studies suggest may damage human cells as well as disrupt the nitrogen balance in freshwater ecosystems? Most likely, you don't know. And you probably can't easily find out because manufacturers aren't required to note that products contain nanomaterials.

The good news, however, is that a number of factors limit the potential dangers posed by nanotechnology. One of the most significant is that humans evolved in the presence of nanoparticles, says R. Stanley Williams, director of information and the quantum systems laboratory at HP Labs in Palo Alto, Calif.

> **"We're putting things on the market that haven't been fully tested."**
>
> **SHEILA DAVIS,** EXECUTIVE DIRECTOR, SILICON VALLEY TOXICS COALITION

"There is certainly reason to be careful," he says. "But our environment is filled with nanoparticles. We just didn't know it until we had tools that could see them."

Even so, industry is taking steps to minimize exposure. Leading manufacturers follow protocols to contain manufactured nanoparticles, says Mihail Roco, senior adviser for nanotechnology at the National Science Foundation.

For example, workers at Intel Corp. wear protective gear, use HEPP (high-efficiency pleated polypropylene) filters and work under hoods, where air pressure pulls wayward particles away from them and into filters, says Todd Brady, Intel's corporate environmental manager.

Technology users also have a measure of protection against exposure thanks to the very nature of nanotechnology. Nanoparticles are bound with other materials to make final products, and studies show that nanomaterials stay bound and therefore won't harm humans or the environment.

"These are so tightly locked down that there's no way the nanoparticles can get out," Williams says. "You can beat on them with a hammer, and they still won't get out." ■

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What It Is

Nanotechnology **applies to the manipulation of common materials (including carbon, silver and polymers) on the atomic and molecular levels to exploit specific properties. Carbon nanotubes, for instance, are stronger than steel yet lighter than plastic.**

The term also applies to work done on the nanoscale (generally, anything smaller than 100 nanometers) using conventional materials. Intel, which uses the term ***nanoelectronics*****, now has a transistor that measures 45 nanometers.**

– MARY K. PRATT

Making the Most of Time Between Trips

Mergers have our manager **on the road** a lot. But meanwhile, his other **security projects** can't languish.

Trouble Ticket

ISSUE: Multiple mergers and acquisitions mean plenty of travel to Europe and Asia for site visits.

ACTION PLAN: Fit in other projects during those brief times not spent on the road.

My company has undertaken so many mergers and acquisitions lately that I'm in danger of doing M&A amelioration full time. My practice is to visit all of the acquired companies' operations. At each site, I ask lots of questions, review architecture diagrams and firewalls, and conduct assessments of the infrastructure.

Many of these sites are overseas, so I spend a lot of time flying to Europe and Asia. And when I get home, I have to spend hours creating assessment reports and remediation plans.

But I can't let my other initiatives shrivel from neglect. I have to make sure I keep all of them on track in between my trips. Here's what I've been up to lately.

First is the never-ending policy project. I've written all the new policies now, so I'm just trying to get my CIO to ratify them. Then I'll be able to upload them to the company intranet and get the word out about them. The policy ratification process has been slow, but I think I've figured out how to move it along.

Instead of overwhelming the CIO with 25 new policies, I've scheduled a series of monthly one-hour meetings. At each session, I present him with three to five policies, with summaries on a separate sheet that highlight the main tenets of each policy and any changes from what we currently have in place. He glances at the full policies, we discuss each one, and I usually end up making some minor changes. After I am finished, the policies are ready for his signature. Besides sparing the CIO a grueling marathon session to go over all the policies at once, this approach fits in better with my current M&A schedule.

Also well under way is the secure FTP project.

I've got about a week before I hit the road again. In the meantime, I hope to make some headway on several tasks while attending to my many other infosec duties.

We're replacing an archaic FTP server that runs WU-FTP on an old version of Solaris with Tumbleweed Secure Transport for transferring information among employees, vendors, customers and partners.

Besides increased security, we're gaining things like the ability to resume file transfer after a connection has been lost and notification features for uploads and downloads. Because technicians will be immediately notified when a customer uploads a maintenance file from one of our products, we will have a competitive advantage.

In addition, the Web-based interface can be customized with our logo, giving it a professional look. I'll also be able to streamline FTP site provisioning by creating a Web-based form for that process that not only will have proper management authorization, but will also bill the proper cost center in order to manage the license fees.

I've received the report for the vulnerability assessment of our VMware deployment. Fortunately, no critical issues were found, but some fairly serious shortcomings will need to be remediated.

We are going to have to harden the VMware ESX Server and VirtualCenter. The ESX Server is a Linux server responsible for managing server, memory, storage and networking resources as they relate to multiple virtual machines. VirtualCenter, which we'll be using to centrally manage our virtual machines, runs on a Windows server. If it were compromised, someone would have control of more than 250 critical servers at their fingertips.

I've scheduled a meeting with the virtualization team. I'll invite the consultant who performed the assessment as well, so the expert will be on hand to defend his findings should the deployment team push back on the remediation tasks.

I've got about a week before I hit the road again. In the meantime, I hope to make some headway on these tasks and continue to attend to my many other infosec duties. ■

This week's journal is written by a real security manager, **"Mathias Thurman,"** *whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com.*

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OPINION

Paul M. Ingevaldson

Why Can't I Get Promoted?

TODAY'S TOPIC is the question I most often received as an IT manager: "Why can't I get promoted?"

To clarify, I'm talking about real promotions that involve a real change in responsibilities. These would include programmer to analyst, analyst to manager, manager to director and director to VP. I'm not discussing skill-level promotions — such as programmer to senior programmer and analyst to senior analyst — that are common in technical fields.

Whenever I got this question, I tried to explain how the promotion decision was made. My explanation was always this: "You never promote somebody who has done a good job. You promote someone who has changed his job."

I don't know who originally said this, but it always made sense to me.

The person who has done a good or even a great job should be given praise and monetary rewards, but he shouldn't be promoted. The business world is littered with great salespeople who failed as sales managers, great engineers who failed as engineering managers, and great IT analysts who failed as IT managers.

The person who should be promoted is the one who has shown not only the ability to do the current job, but also the behavior and the interest that would indicate the ability to do the next job.

Remember, nobody wants to promote someone only to see him fail in the new position. So if you're looking to move up, you need to display behavior that minimizes the perception of risk in promoting you. That is the essence of changing your job: You must show the promoter that you possess the skills to do the next job, thereby validating the decision to promote you.

You never promote somebody who has done a good job. You promote someone who has changed his job.

For example, if you are a programmer and your only interest is to get clear specifications and go off and do the coding, you may not get promoted. But if you ask intelligent questions about why things are specified the way they are and perhaps suggest some alternative approaches that might improve the outcome, you are on the way to being an analyst.

If you are an analyst but have no interest in the political climate of the company, then you may be an analyst for a long time. However, if you demonstrate an awareness and understanding of the company issues that cause certain things to happen, you may be punching your ticket for a manager's job.

If you're a manager and you take the time to understand the financial and strategic issues affecting the company, you're paving the road to the director and VP level.

Of course, there's more to it than that. At each level, there are fewer and fewer jobs, and the competition becomes more intense. No one can tell you the way because there is no one clear path. In some cases, it may be advantageous to take a lateral position to gain some helpful experience. And typically, success stories are riddled with excellent timing and just plain good luck. You will need all of that to put yourself in a position to move to the next higher role if it becomes available.

Here's what I would always tell my subordinates: Your career is in your hands, not mine. Don't sit back and think that advancement will just fall into your lap. You have to take control. You must be able to do your current job well and, at the same time, show that you have what it takes to move to the next job. This is the essence of promotability. ■

Paul M. Ingevaldson *retired as CIO at Ace Hardware Corp. in 2004 after 40 years in the IT business. Contact him at ingepi@aol.com.*

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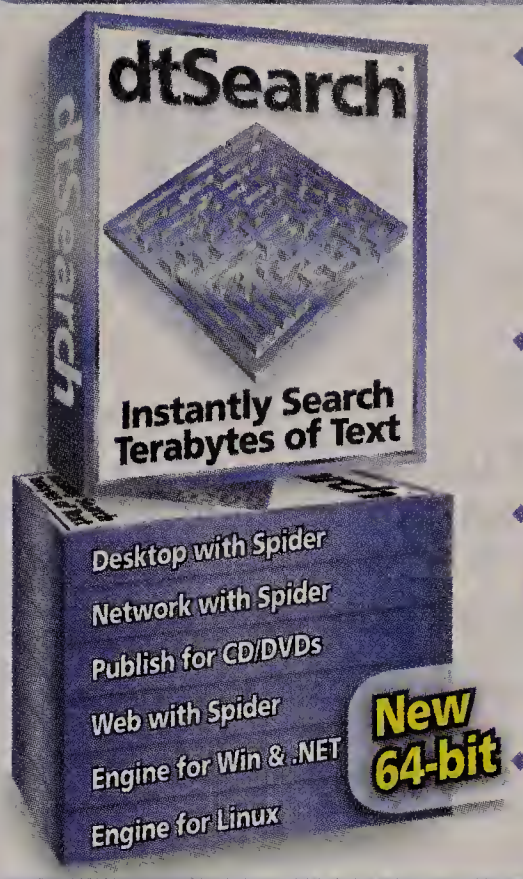

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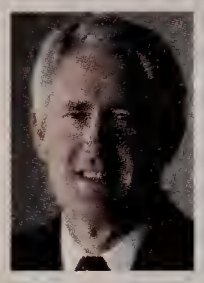


Q&A
Dennis Kilian
The **education evangelist** at Safari Books Online discusses the **ins and outs of e-learning.**

E-learning is certainly more convenient. But isn't time spent in a classroom more effective? Although e-learning isn't a replacement for the traditional classroom, it's another option. It's a way to stay current and keep a timely reference library at your fingertips, whether by online tutorials or finding a community of like-minded thinkers. People can also get a jump on new technology on the horizon and find out what they need to know as it's being developed.

This is important in an area like technology, which changes so rapidly. The most exciting thing is applying Web 2.0 in social settings for collaboration. The conversation focuses on a central topic and develops a community of interest around it.

Does quantitative research prove e-learning's effectiveness? There is strong evidence that e-learning results in an equal or higher quality of learning over traditional instruction. With e-learning, students feel more in control because the computer provides a nonthreatening and nonjudgmental learning environment. E-learning actively involves the student in the training process, providing for increased student satisfaction.

How can an e-learning environment duplicate the collaboration and camaraderie of a physical learning environment? E-learning offers a blackboard or sandbox environment where students can converse in a chat room or similar setting. They also can comment on the work of fellow students, which helps build collaboration and camaraderie. In some cases, an e-learning environment builds a stronger support system than that found in brick-and-mortar classrooms, because students may feel intimidated speaking up in a traditional classroom.

Do certain topics lend themselves to online learning? Most, if not all topics, lend themselves to online learning in a couple of different ways. E-learning provides integration of text, graphics and sound, making it a more effective learning option because it appeals to multiple styles – visual, aural and kinetic. E-learning also provides immediate feedback, which allows both instructors and trainees to monitor progress and adjust instruction accordingly. Students can work at their own pace using e-learning programs and get immediate feedback to keep tabs on their own progress.

– JAMIE ECKLE

PAGE COMPILED BY JAMIE ECKLE.

The Implications of Outsourcing

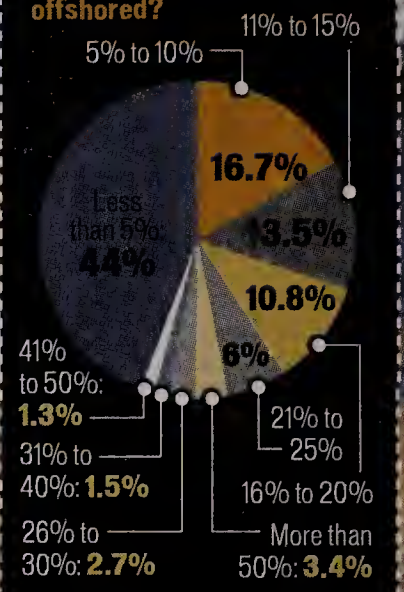
CareerBuilder.com and the Wharton School of the University of Pennsylvania released a comprehensive study on offshoring in April that yielded several interesting data points relevant to IT professionals. Here are some of the study's findings.

Percentage of companies planning to offshore the following jobs:

Computer programmer	32%
Software developer	32%
Customer service	25%
Systems analyst	16%
Sales manager	8%
Graphic designer	8%
HR personnel	7%
General manager	6%
Marketing personnel	5%

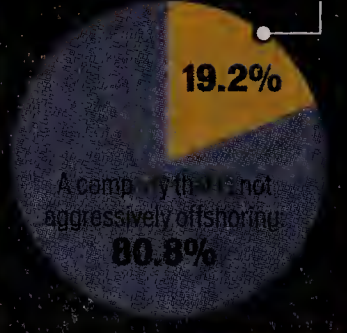
MULTIPLE RESPONSES ALLOWED.

What percentage of jobs at your company do you expect to ultimately be offshored?

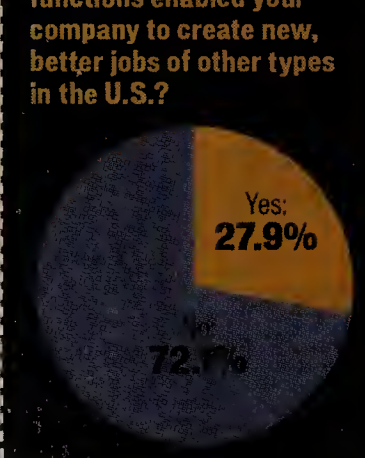


DOES NOT ADD UP TO 100% BECAUSE OF ROUNDING.

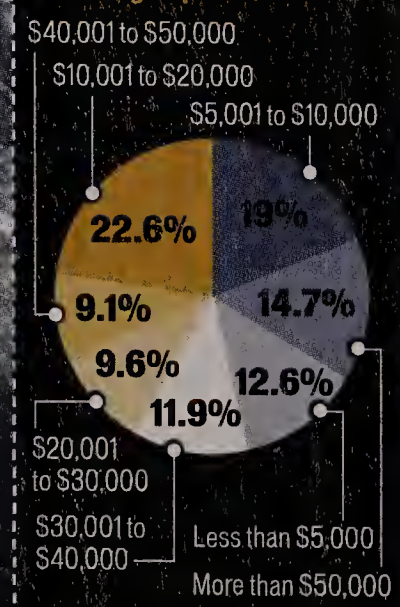
If you have ever lost a job due to offshoring, did you find a new job at a company that offshores or one that is not aggressively offshoring?



Has offshoring certain job functions enabled your company to create new, better jobs of other types in the U.S.?



How much do you estimate your company is saving per head, on average, by outsourcing IT positions?



DOES NOT ADD UP TO 100% BECAUSE OF ROUNDING.

What prevents your company from outsourcing?

A desire to keep jobs in the U.S.	21.1%
Customers wouldn't like it	13.6%
Work involves sensitive data	10.1%
Trust across borders	6.5%
Costly to monitor workers	6%
Materials/shipping costs	4.8%
Available skilled labor	4.6%
Political risk	3.7%
Tariffs	1.7%

MULTIPLE RESPONSES ALLOWED.

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Shark Tank

TRUE TALES OF IT LIFE AS TOLD TO SHARKY

It's Captain Video!

This public library system installs a new trouble-ticket application, and in order to save training time, pilot fish creates an online video that shows how to log a problem. That goes up on the staff intranet, and it seems to work fine. But one day, a tech walks into fish's office and says, "So, Fred, tell me about your superpowers." What? says fish. "Tell me about your new superpowers. This staff person swears you have superpowers." Please explain. "I was on the phone with a branch manager," tech says, "and they were having problems with a phone damaged by a lightning storm. I told them that they should go to our staff intranet and fill out an electronic work request so we could start working on replacing the phone. In the background, I heard someone say, 'Don't worry, Fred is filling out the ticket for us right now.' I knew this was extremely impossible, so I asked the logical follow-up question: Are you sure? 'Yes, he is right here filling out the work request on the computer.' After waiting a minute to stifle a long laugh, I assured the branch manager that they had to fill out their own ticket and that I was sure that Fred would not mind a duplicate ticket. Then I ended the call and came over here to see if you had gained some superpowers."

What Goes Around . . .

Irate senior professor at a big university swings by the departmental help desk, complaining that the wireless network connection in the main lecture hall isn't working. "He threatens to talk to his pal the university chancellor," says a pilot fish there. "It needs to be fixed *now*, ASAP, etc." Help desk calls in the campus wireless network engineers, who quickly find the problem. "Turns out the building is being saturated by a rogue wireless access point that is clobbering the official access point," fish says. "Guess who owns that device: the professor who couldn't get a connection in the lecture hall."

This Looks Like a Job For Sticky Labels

This IT pilot fish and his co-worker want to try out the 64-bit version of Microsoft's Windows Vista, but there's no testbed machine available. "We decided to take a new hard drive and install Vista on it using my co-worker's machine," fish says. "He swapped the hard drive, and we started the install. Everything went great – it installed like a charm, and we did what we needed to do. But when my co-worker put his old hard drive back into his machine and booted up, he got an error: 'Operating system not found.' My co-worker had mixed up the hard drives when he swapped them and is now in the process of trying to recover his 60GB worth of data."

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FRANKLY SPEAKING

Frank Hayes

The How of Y

WHEN IT CAME TO WORK, the great Chicago newspaper columnist Mike Royko liked to quote his friend Slats Grobnik: "If it's so good, how come they have to pay you to do it?"

Slats had the right idea. I think of him every time I hear someone moaning about how tough it is to manage Gen Y'ers or millennials or whatever we're calling kids these days.

The moaners are usually baby boomers, born between 1946 and 1964, who imagine that they were real prizes when they got their first jobs in IT. Their work ethic was exemplary. Their team spirit was unrivaled. Their devotion to The Way It Has Always Been Done was truly a thing of beauty.

In their dreams.

Sure, a few boomers were like that. Usually, they were fresh from a hitch in the Army. After a year or two of being shot at, following orders in an IT department looked positively relaxing. But they were the minority.

Then there were the boomers who spent every spare moment in college in front of a terminal at the computer center.

They were the ones who invented their own computer languages, churned out ASCII pin-up calendars on the high-speed printers and made the washing-machine-size disk drives waddle their way across the computer room.

That wasn't exactly well-loved behavior once they got into the corporate world.

Mostly, though, boomers took jobs in IT because it was work, and somebody would pay them to do it.

They were English majors who could remember where the commas went in Cobol. Philosophy majors who could figure out how to make a flowchart work. History majors who . . . well, they were history majors. They just needed a job.

Every new generation is a step ahead when it comes to technology. And every new generation is naive.

They were mouthy and opinionated. They knew next to nothing but thought they knew everything. They dressed funny, listened to noisy music and weren't much interested in beating their brains out at work.

That's the crowd complaining today about these lazy, noisy, funny-looking kids with their instant messaging and texting and MySpace and Second Life.

So let's quit feeling sorry for ourselves, OK?

Every new generation is a step ahead when it comes to technology. That's how we make progress in IT.

And every new generation is naive when it comes to the realities of business IT: budgets, regulations, business requirements, training and support costs, even the fact that business — not technology — is what the IT shop is all about.

Managing newcomers to the workforce is nothing new, despite the moaning of boomer managers and the dire predictions of pundits. We have to show them what the business needs and motivate them to turn their technical chops into practical solutions for real business problems.

Does that mean coddling or catering to them? Not unless we're *really* desperate.

Does it mean turning to Web 2.0? Maybe. If it does, have them figure out the business case for it — once we've shown them how to make a business case.

Most important, does it mean bending over backward to meet the demands that pundits tell us these kids will bring to the IT workplace?

Of course not. They're not as lazy, noisy and funny-looking as we think they are, but these kids are also nowhere near as dumb as the pundits imagine them to be.

They know they're not here for fun — or to make demands. They're here to work.

That's how come we're paying them to do it. ■

Frank Hayes *is* Computerworld's *senior news columnist. Contact him at frank_hayes@computerworld.com.*

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